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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
JORDAN, KIMBERLY L

ART UNIT	PAPER NUMBER
2194	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
 Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>*26 April 2010*</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

5) ☒ Claim(s) <u>*1-9 and 11*</u> is/are pending in the application.

    5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6) ☒ Claim(s) <u>*8,9 and 11*</u> is/are allowed.

7) ☒ Claim(s) <u>*1-7*</u> is/are rejected.

8) ☐ Claim(s) _____ is/are objected to.

9) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

10) ☐ The specification is objected to by the Examiner.

11) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____ .

DETAILED ACTION

1.   This Office action is in response to the amendment filed April 26, 2010.

2.   Claims 1-9 and 11 are pending and have been examined.

3.   Claims 1, 8, 9, and 11 have been amended.

4.   Claims 10, 12, and 13 have been cancelled.

5.   Claims 8, 9, and 11 are allowed.

Continued Examination Under 37 CFR 1.114

6.   A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection. Since this application is

eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)

has been timely paid, the finality of the previous Office action has been withdrawn pursuant to

37 CFR 1.114. Applicant's submission filed on 04/26/2010 has been entered.

Response to Amendment

Claim Objections

7.   Claims 1 and 6 are objected to because of the following informalities:

- Claim 1, line 3 contains an unnecessary parenthetical. It is recommended to either

   remove the parenthetical entirely or remove the parenthesis to make "of the

   computer" explicitly part of the claim.

- Claim 6, line 3 contains an unnecessary comma.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

8.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign
country or in public use or on sale in this country, more than one year prior to the date of
application for patent in the United States.

9.   Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by <u>Prabhu et al.</u> (*I/O*

File System Filter Driver For Windows NT), hereinafter <u>Prabhu</u>.

Regarding claim 1, <u>Prabhu</u> discloses:

– *a device driving system implemented in a computer and configured for driving at*

least one hardware device of predetermined functionality from an operating

system of the computer that communicates with an installed driver for said

hardware device (see at least figure page 4)*, the device driving system*

comprising:

– *additional driver means interposed between the operating system and the*

installed driver (see at least page 4, figure; page 3, last paragraph; page 4,

paragraph 2, the I/O Manager is part of the OS and a filter driver is placed

between the installed driver and the OS) *and configured to interface directly with*

at least said operating system (see at least figure page 4; page 4, paragraph 1, the

I/O Manager directs requests to the filter driver instead of the installed driver), *the*

additional driver means configured to enable operation of at least one further

hardware device of functionality differing from said predetermined functionality

and unsupported by said software system (see at least page 3, paragraph 4,

scenario where OS does not support on-line encryption/decryption but a filter

driver implementation may perform this data operation), *the additional driver*

means further configured to communicate with said operating system in the same

manner that the installed driver is configured to communicate with said operating

system in the absence of the additional driver means (see at least page 3,

paragraph 2, the filter driver is invisible; page 4, paragraph 2, "the I/O Manager

will begin redirecting I/O requests to the device object of the filter driver instead

of forwarding them to the driver managing the target device object"; page 4,

paragraph 3, "IRPs destined for the driver associated with the original Device

Object will be sent to the driver associated with the "attached" Device Object.

This attached driver is the Filter Driver"; page 3, last paragraph – page 4, first

paragraph, "Ensure that the driver is set up to process the I/O requests, originally

directed to the target device object, that will be sent to it instead. I.e. the driver

needs to have all the Dispatch entry points as that of the original driver so that it

can redirect the request to the original driver. Ensure that the fields in the device

object are set correctly to maintain complete transparency to the modules that

normally invoke the target driver.")

Regarding claim 2, the rejection of claim 1 is incorporated, and <u>Prabhu</u> further discloses:

– *wherein the additional driver means is also configured to interface directly with said installed driver, thereby enabling continued and unchanged use of said at least one hardware device of predetermined functionality* (see at least figure page 4; page 4, paragraph 2, "the I/O Manager will begin redirecting I/O requests to the device object of the filter driver instead of forwarding them to the driver managing the target device object"; page 4, paragraph 3, "IRPs destined for the driver associated with the original Device Object will be sent to the driver associated with the "attached" Device Object. This attached driver is the Filter Driver")

Regarding claim 3, the rejection of claim 2 is incorporated, and <u>Prabhu</u> further discloses:

– *wherein the additional driver means is additionally configured to interface with a further driver which is configured to drive an additional hardware device* (see at least page 3, paragraph 4, "The filter driver could also use the services provided by the existing drivers on the system. Hence it can use the services of the file system driver and the disk drivers to manage transfer of data on the secondary storage devices.")

Regarding claim 4, the scope of the instant claim does not differ substantially from that of

claim 3. Accordingly, claim 4 is rejected for the same reasons as set forth in the rejection of

claim 3.

Claim Rejections - 35 USC § 103

10.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or
> described as set forth in section 102 of this title, if the differences between the subject
> matter sought to be patented and the prior art are such that the subject matter as a whole
> would have been obvious at the time the invention was made to a person having ordinary
> skill in the art to which said subject matter pertains. Patentability shall not be negatived
> by the manner in which the invention was made.

11.   Claims 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prabhu et

al. (*I/O File System Filter Driver For Windows NT*), hereinafter Prabhu, in view of Saravan et al.

(*WDM USB Video Streaming Filter Driver*), hereinafter Saravan.

Regarding claim 5, the rejection of claim 1 is incorporated. However Prabhu does not

explicitly disclose, but Saravan discloses:

  − *wherein the at least one hardware device comprise audio devices* (see at least

    page 11, part 2, paragraphs 1 and 3, a filter driver is used for a USB camera which

    captures audio)

It would have been obvious to one of ordinary skill in the art at the time of the invention

to modify Prabhu's description of a file system driver filter driver by incorporating the teachings

of Saravan to include a USB video/audio filter driver. The filter driver described in both

references' filter drivers perform the same functions but are directed to different hardware.

Filters directed to USB audio/video allow noise reduction from a USB reduction (Saravan page

2, paragraph 1).

Regarding claim 7, the rejection of claim 1 is incorporated. However Prabhu does not

explicitly disclose, but Saravan discloses:

- *wherein the operating system is the Windows operating system* (see at least page

    14, last paragraph, system requirements include Windows OS) *and the said*

    installed driver comprises a Windows Driver Model (WDM) audio driver (see at

    least page 11, part 2, paragraphs 3 and 6, the filter driver is implemented based on

    WDM for a USB camera which captures audio)

It would have been obvious to one of ordinary skill in the art at the time of the invention

to combine Prabhu and Saravan for the reasons listed above.

12.   Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Prabhu et al. (*I/O*

File System Filter Driver For Windows NT), hereinafter Prabhu, in view of Saravan et al. (*WDM*

USB Video Streaming Filter Driver), hereinafter Saravan, and further in view of Puryear (US

6,646,195).

Regarding claim 6, the rejection of claim 4 is incorporated. However <u>Prabhu</u> does not explicitly disclose, but <u>Saravan</u> discloses:

—   *wherein the at least one hardware device comprises USB audio hardware* (see at least page 11, part 2, paragraphs 1 and 3, a filter driver is used for a USB camera which captures audio) *and*

However <u>Prabhu</u> and <u>Saravan</u> do not explicitly disclose, but <u>Puryear</u> discloses:

—   *the additional device comprises hardware associated, with 3D positioning of sounds or environmental effects* (see at least Figure 3; column 4: 55-50, coordinating change on a 3D sound buffer and changing sound appearing to move from two or more speakers are types of audio control messages sent in the system using modules (filters))

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify <u>Prabhu</u> and <u>Saravan's</u> driver filters by incorporating the teachings of <u>Puryear</u> to include the hardware allowing for 3D sounds. <u>Puryear</u> discussing processing of audio in multiple ways, one of which involves 3D sounds, using filters which allows for clearer audio (reduction in latency and jitter) (<u>Puryear</u> column 2: 25-27).

Response to Arguments

13.   Rejection of claims under §103(a):

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Applicant asserts that art directed to filter drivers which allow modifications to the data stream would cause problems to arise (as seen in the background of the specification ¶0012). However <u>Prabhu</u> details that data may simply be passed on and not necessarily modified (page 4, paragraph 2, "This filter driver can then examine, modify, complete, or pass along the IRPs it receives to the original driver."). The newly added limitation that the newly added driver communicates with the OS in the same manner that the installed driver does without the newly added driver is taught by <u>Prabhu</u> in that the filter driver is invisible within the system as seen in the rejection above. <u>Saravan</u> also indicates on page 5, paragraph 1, that users of the lower driver are completely unaware of the filter driver.

Conclusion

14.   Any inquiry of a general nature or relating to the status of this application or concerning

this communication or earlier communications from the examiner should be directed to Kimberly

Jordan whose telephone number is 571-270-5481. The examiner can normally be reached on

Monday-Friday 9:30am-5pm EST. If attempts to reach the examiner by telephone are

unsuccessful, the examiner's supervisor, Hyung Sough can be reached on 571-272-6799.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private

PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you

would like assistance from a USPTO Customer Service Representative or access to the

automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kimberly Jordan/
Examiner, Art Unit 2194

/S. Sough/
Supervisory Patent Examiner, Art Unit 2194